

INDUSTRIAL BATTERIES/CHARGERS

CATALOG



Exclusive Deals made just for you

**FREE
FREIGHT
OPTIONS**
Call Today

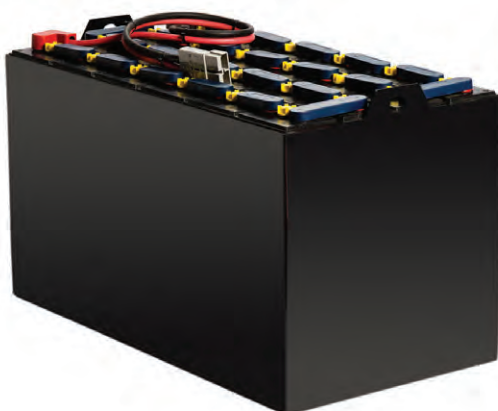


Industrial Batteries

Best value for low-maintenance replacement batteries!

Industrial Batteries

Batteries from 12 Volts up to 48 Volts



Full-Power Ratings

Low Maintenance For Life (30%-40% reduced)

Built-in over-flow prevention keeps batteries/environments clean



"Maintenance is required" indicators

Fast-Charge Compatible, extra-heavy Construction

MADE IN USA since 1950

12 VOLTS

Battery Model	Length	Width	Height	Cover	Battery Model	Length	Width	Height	Cover
BT6-85-11	26"	7 3/4"	23 3/4"	Yes	BT6-85-13-1	30 5/8"	7 3/4"	23 3/4"	Yes
BT6-85-11-1	26 1/8"	6 1/2"	23 3/4"	Yes	BT6-100-13	30 5/8"	7 3/4"	26 3/4"	Yes
BT6-85-13	30 5/8"	7 3/4"	23 3/4"	Yes	BT6-125-13	30 9/16"	7 3/4"	31"	Yes

24 VOLTS

Battery Model	Length	Width	Height	Cover	Battery Model	Length	Width	Height	Cover
BT12-85-05 -1	24 7/8"	6 1/2"	22 7/8"	No	BT12-85-23	35 5/8"	19 7/32"	22 7/8"	No
BT12-85-05-2	24 7/8"	6 1/2"	23 3/4"	Yes	BT12-100-13	30 9/16"	12 3/4"	26 1/4"	No
BT12-85-05-3	24 3/4"	7 5/8"	23 3/4"	Yes	BT12-125-11	31 7/8"	11"	31"	Yes
BT12-85-05-4	30 5/8"	6 1/2"	23 3/4"	Yes	BT12-125-11-1	31 7/8"	11"	30 1/4"	No
BT12-85-05-5	20 3/4"	8 3/8"	23 3/4"	Yes	BT12-125-13-1	35 3/4"	11 3/4"	30 1/4"	No
BT12-85-07-1	30 9/16"	7 3/4"	31"	Yes	BT12-125-13-2	30 5/8"	12 3/4"	31"	Yes
BT12-85-07-3	30 3/8"	8 11/16"	23 3/4"	Yes	BT12-125-13-3	30 5/8"	12 3/4"	30 1/4"	No
BT12-85-07W-2	25 3/8"	8 11/16"	22 7/8"	No	BT12-125-13-4	35 3/4"	11 3/4"	31"	Yes
BT12-85-13-1	30 5/8"	12 13/16"	23 3/4"	Yes	BT12-125-13-5	35 3/4"	13 1/2"	30 1/4"	No
BT12-85-13-2	30 9/16"	12 3/4"	22 7/8"	No	BT12-125-15-1	35 1/8"	12 7/8"	30 1/4"	No
BT12-85-13W-6	n/a	n/a	n/a	n/a	BT12-125-15-2	35 1/8"	12 7/8"	31"	Yes
BT12-85-15	35 5/8"	12 7/8"	22 7/8"	No	BT12-125-15-3	36"	14"	30 1/4"	No
BT12-85-15-1	35 5/8"	12 7/8"	23 3/4"	Yes	BT12-125-15-4	38"	12"	30 1/4"	No
BT12-85-19	29 5/8"	19 7/32"	22 7/8"	No	BT12-125-17	38"	13"	30 1/4"	No
BT12-85-21	32-5/8"	19 7/32"	22 7/8"	No					

Best value for low-maintenance replacement batteries!

Battery Sizing Chart

Batteries from 12 Volts up to 48 Volts

36 VOLTS									
Battery Model	Length	Width	Height	Cover	Battery Model	Length	Width	Height	Cover
BT18-85-13	38 ¹ / ₈ "	15 ³ / ₈ "	22 ⁷ / ₈ "	No	BT12-85-23	38 ¹ / ₈ "	26 ⁷ / ₈ "	23 ³ / ₄ "	Yes
BT12-85-15-1	31 ¹³ / ₁₆ "	23 ⁹ / ₁₆ "	22 ⁷ / ₈ "	No	BT12-85-23-1	38 ¹ / ₈ "	26 ⁷ / ₈ "	22 ⁷ / ₈ "	No
BT12-85-15-2	38 ¹ / ₈ "	17 ¹¹ / ₁₆ "	22 ⁷ / ₈ "	No	BT12-85-25	38 ¹ / ₈ "	29 ¹⁵ / ₁₆ "	23 ³ / ₄ "	Yes
BT12-85-17	38 ¹ / ₈ "	20 ¹ / ₁₆ "	22 ⁷ / ₈ "	No	BT12-85-25-1	38 ¹ / ₈ "	29 ¹ / ₈ "	22 ⁷ / ₈ "	No
BT12-85-17-1	33 ¹ / ₁₆ "	25 ⁹ / ₁₆ "	23 ³ / ₄ "	Yes	BT12-85-27	38 ¹ / ₈ "	31 ³ / ₈ "	22 ⁷ / ₈ "	No
BT12-85-17-2	33 ¹ / ₁₆ "	25 ⁹ / ₁₆ "	22 ⁷ / ₈ "	No	BT12-85-29	38 ¹ / ₄ "	33 ³ / ₄ "	22 ⁷ / ₈ "	No
BT12-85-17-3	32"	26 ¹ / ₂ "	22 ⁷ / ₈ "	No	BT12-100-17	38 ¹ / ₈ "	20 ¹ / ₁₆ "	25 ⁵ / ₈ "	No
BT12-85-17-4	31 ¹³ / ₁₆ "	26 ⁹ / ₁₆ "	23 ³ / ₄ "	No	BT12-100-21	38 ¹ / ₈ "	24 ⁵ / ₈ "	25 ⁵ / ₈ "	No
BT12-85-17-5	38 ¹ / ₈ "	20 ¹ / ₈ "	23 ³ / ₄ "	Yes	BT12-125-11	38 ¹ / ₈ "	13 ¹ / ₈ "	30 ¹ / ₄ "	No
BT12-85-19	35"	25 ¹ / ₂ "	22 ⁷ / ₈ "	No	BT12-125-13	38 ¹ / ₁₆ "	15 ³ / ₈ "	30 ¹ / ₄ "	No
BT12-85-19-1	35 ⁷ / ₈ "	25 ⁵ / ₈ "	22 ⁷ / ₈ "	No	BT12-125-15	38 ¹ / ₈ "	17 ¹¹ / ₁₆ "	30 ¹ / ₄ "	No
BT12-85-19-2	38 ¹ / ₈ "	22 ⁵ / ₁₆ "	22 ⁷ / ₈ "	No	BT12-125-17	38 ¹ / ₈ "	20 ¹ / ₁₆ "	30 ¹ / ₄ "	No
BT12-85-21	38 ¹ / ₈ "	26 ⁷ / ₈ "	22 ⁷ / ₈ "	Yes					

48 VOLTS									
Battery Model	Length	Width	Height	Cover	Battery Model	Length	Width	Height	Cover
BT24-85-13	30 ⁵ / ₈ "	25 ³ / ₈ "	22 ⁷ / ₈ "	No	BT24-85-19	38 ¹ / ₈ "	29 ¹ / ₂ "	22 ⁷ / ₈ "	No
BT24-85-13-1	37 ³ / ₄ "	20 ⁷ / ₁₆ "	22 ⁵ / ₈ "	No	BT24-85-19-1	44 ¹ / ₄ "	25 ⁵ / ₈ "	22 ⁷ / ₈ "	No
BT24-85-15	38 ¹ / ₈ "	23 ⁷ / ₁₆ "	22 ⁷ / ₈ "	No	BT24-85-21	38 ¹ / ₈ "	32 ⁵ / ₈ "	22 ⁷ / ₈ "	No
BT24-85-15-1	35 ¹ / ₈ "	25 ⁵ / ₈ "	22 ⁷ / ₈ "	No	BT24-85-25	38 ³ / ₄ "	38 ¹ / ₈ "	22 ⁷ / ₈ "	No
BT24-85-17-1	38 ¹ / ₈ "	26 ⁷ / ₈ "	23 ³ / ₄ "	Yes	BT24-125-09	n/a	n/a	n/a	n/a
BT24-85-17-2	38 ¹ / ₈ "	26 ⁷ / ₈ "	22 ⁷ / ₈ "	No	BT24-125-13	38 ¹ / ₈ "	20 ⁹ / ₁₆ "	30 ¹ / ₄ "	No
					BT24-125-13-1	44"	20 ⁹ / ₁₆ "	30 ¹ / ₄ "	No

WARRANTY INFORMATION

IF THE BATTERY BUILDERS BATTERY BECOMES UNSERVICEABLE DUE TO DEFECTIVE WORKMANSHIP OR MATERIAL WITHIN 60 MONTHS FROM DATE OF SHIPMENT, IT WILL BE REPAIRED OR REPLACED AT BATTERY BUILDERS OPTION. THERE WILL BE NO COST FOR PARTS OR LABOR, F.O.B. THE NEAREST BATTERY BUILDERS SERVICE LOCATION. REPAIRS WILL BE MADE BY A BATTERY BUILDERS SERVICING AGENT IN THE AREA OR A PRE-APPROVED BATTERY REPAIR CENTER. IF THE BATTERY IS TO BE REPLACED, IT WILL BE REPLACED WITH A BATTERY OF COMPARABLE SIZE AND TYPE.

EXCEPTIONS: 5 & 7 PLATE BATTERIES AND UNITS WITH BUILT IN CHARGERS WILL BE WARRANTED FOR A PERIOD OF 2 FULL YEAR PLUS AN ADDITIONAL 12 MONTHS PRO-RATED OR 900 LIFE CYCLES WHICHEVER COMES FIRST.

CONDITIONS

1. EACH BATTERY MUST BE PROPERLY SIZED IN REGARDS TO WEIGHT AND CAPACITY FOR THE DUTY CYCLE IT IS TO PERFORM.
2. THE BATTERY MUST BE MATCHED TO THE PROPER SIZE CHARGER AND PROPER CONTROL TO RECHARGE THE BATTERY.
3. THE SIXTY (60) MONTH WARRANTY IS BASED ON 1800 CYCLES AND LIMITED TO ONE CHARGE AND ONE DISCHARGE WITHIN A TWENTY-FOUR(24) HOUR PERIOD TO 80% RATED CAPACITY AND NO MORE THAN 350 CYCLES PER CALENDAR YEAR.
4. BATTERY BUILDERS WARRANTY WILL BE ACTED UPON IF THE BATTERY FAILS TO REACH 80% OF THE PUBLISHED RATED CAPACITY AMP HOUR AT THE 6 HOUR RATE TO A FINAL VOLTAGE OF 1.70 VOLTS, WHEN TESTED UNDER MANUFACTURER'S GUIDE LINES.
5. THE REPAIRED OR REPLACED BATTERY WILL BE WARRANTED ONLY FOR THE REMAINDER OF THE ORIGINAL PERIOD.
6. THIS WARRANTY IS INVALID IF THE BATTERY IS SUBJECT TO MISUSE, PHYSICAL DAMAGE, OR ABUSE OTHER THAN THE NORMAL WEAR AND TEAR.
7. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL PURCHASER AND IS NONTRANSFERABLE.

THIS WARRANTY IS VOID IF THE BATTERY BECOMES UNSERVICEABLE DUE TO FIRE, WRECKAGE, FREEZING, NEGLIGENCE, EVIDENCE OF HIGH TEMPERATURES, ANY ACT OF GOD, THE USE OF BATTERY ADDITIVES OR IF THE BATTERY HAS BEEN TESTED, SERVICED, OR REPAIRED BY SOMEONE OTHER THAN AN AUTHORIZED BATTERY BUILDERS SERVICING AGENT.

BATTERY BUILDERS SHALL NOT BE LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE SALE OR RELATING TO THE USE OF THIS PRODUCT. THE PURCHASER ASSUMES RESPONSIBILITY FOR PERSONAL INJURY AND PROPERTY DAMAGE RESULTING FROM THE HANDLING, POSSESSION OR USE OF THE PRODUCT. IN NO EVENT, SHALL THE LIABILITY OF BATTERY BUILDERS INC. FOR ANY AND ALL CLAIMS, INCLUDING CLAIMS OF BREACH OF WARRANTY OR NEGLIGENCE, EXCEED THE PURCHASE PRICE OF THE PRODUCT.

THIS WARRANTY IS UNDERSTOOD TO BE THE EXCLUSIVE AGREEMENT BETWEEN THE PARTIES RELATING TO THE SUBJECT MATTER HERE FOR. NO REPRESENTING AGENT UNLESS NOTED SO BY BATTERY BUILDERS IN WRITING IS AUTHORIZED TO ANY WARRANTY IN ADDITION TO THOSE MADE IN THIS AGREEMENT.



Battery Chargers

Helmar is the Exclusive North America Distributor of PBM Chargers

Battery Chargers Since 1973

PBM Battery Chargers

THREE MODELS FOR THE WHOLE RANGE



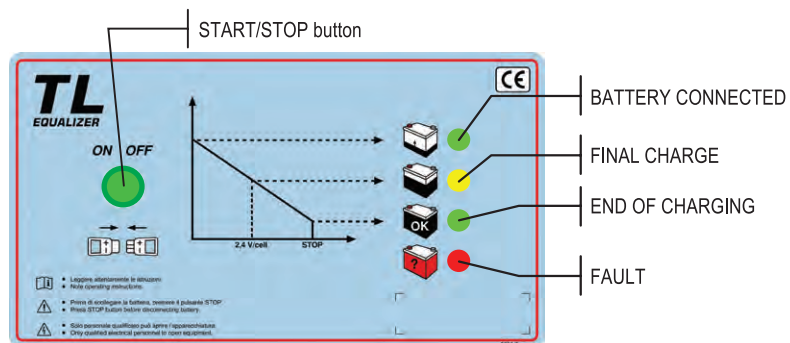
- Culus, Ccsaus, Fcc, Tuv, Ce Approved
- UL Recognized Insulation System Of The Power Transformer
- Electronic Controller With Failure Diagnostics
- Last Charge Information Stored As Long As Battery Remains Connected
- Automatic Start/Stop
- Equalizing Charge
- Overload Cutout On Transformer Overload cutout on transformer.



TL EQUALIZER

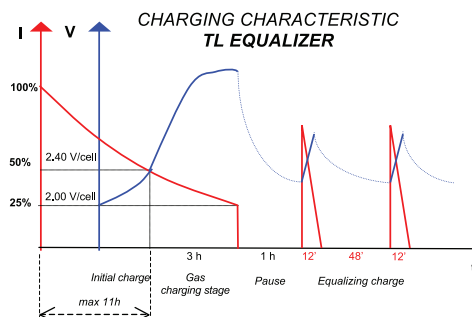
Single Phase

- Single-phase input voltage 120/208/240 VAC - Frequency 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with UL recognized insulation system which ensures high reliability even in heavy-duty conditions.
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE TÜV safety requirements.
- Equipped with power cord and battery cables. Complete with connectors.
- Electronic controller AP071 with microprocessor and failure diagnostics.
- Polycarbonate panel equipped with 4 LED's indicating the charging stages.
- 12/24/36/48V rated voltages selectable by jumpers and with 2.40 V/cell automatic threshold setting.
- DIP switches to program and set the charging parameters (Autostart, Final charge time, Quick test, Equalizing charge and Proportional charge).
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.



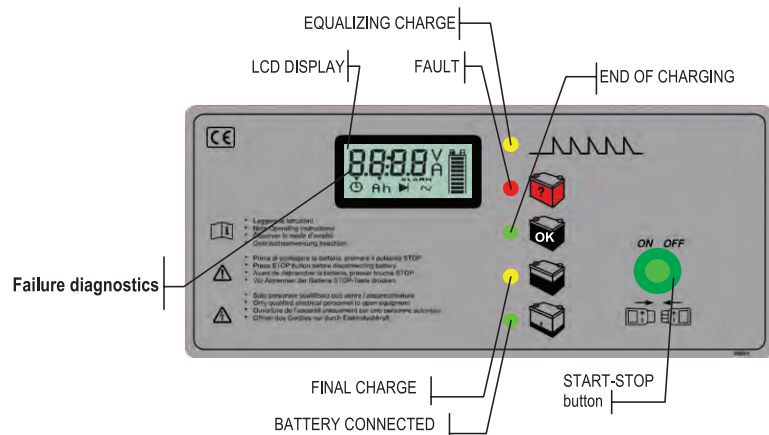
9-10H CHARGING CHARACTERISTICS

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Time-controlled gas charging stage, adjustable by DIP switches (3 hours as standard).
- Foreseen charging time: $9 \div 10$ hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle. It is performed during the night and is repeated once a week as maintenance cycle.

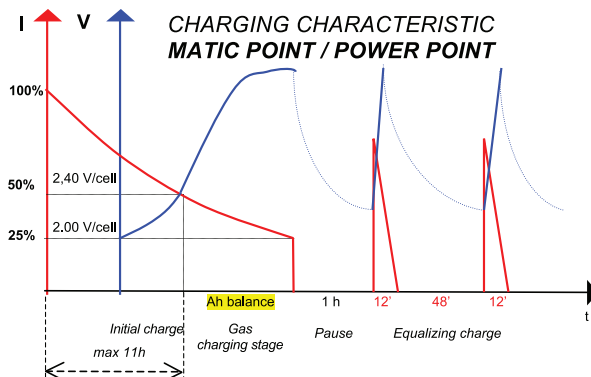


MATIC POINT
Single Phase

- Single-phase input voltage 120/208/240 VAC - Frequency 50/60 Hz..
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with UL recognized insulation system which ensures high reliability even in heavy-duty conditions.
- Overload cut-out on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input, auxiliary circuits and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE/TÜV safety requirements.
- Equipped with power cord and battery cables. Complete with connectors.
- Electronic controller AP735USA with microprocessor and failure diagnostics powered from battery voltage.
- Storage of the charging parameters of the last charge (only as long as battery remains connected) displayed on the LCD: Voltage, Current, Ah, and Time.
- Polycarbonate panel with LED's indicating the charging stages.
- Charger switching off on battery disconnection while on charge.
- Short check of functions and times.
- 4 digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON-OFF button.
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.


9-10H CHARGING CHARACTERISTICS

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Ah and dV/dt controlled gas charging stage available to optimize the overcharging factor, making it independent of mains fluctuations, battery discharge factor and status, thus ensuring a longer battery life.
- Time-controlled gas charging stage as an alternative adjustable by DIP switches (3 hours as standard).
- Foreseen charging time: 9 ÷ 10 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle. It is performed during the night and is repeated once a week as maintenance cycle.





Battery Chargers

Helmar is the Exclusive North America Distributor of PBM Chargers

STANDARD
SINGLE
PHASE

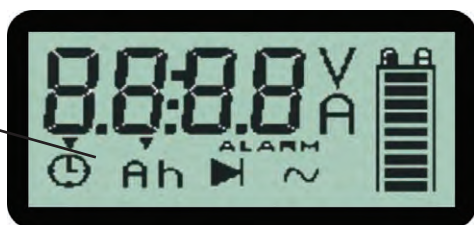
POWER POINT

Single Phase & Three Phase

- Single-phase input voltage 208/240/480 VAC - Frequency 50/60 Hz.
- Three-phase input voltage 208/240/480/600 VAC - Frequency 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with UL recognized insulation system which ensures high reliability even in heavy-duty conditions.
- Low voltage control circuit (24 VAC).
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input, auxiliary circuits and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE/ TÜV safety requirements.
- Complete with battery cables and connector.
- Power cord to be installed by the customer.
- Electronic controller AP735USA with microprocessor and failure diagnostics powered from battery voltage.
- Polycarbonate panel with LED's indicating the charging stages.
- Charger switching off on battery disconnection while on charge.
- LED's indicating charging stages or faults, if any.
- 4 digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON-OFF button.
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.



Failure diagnostics
with alarm display



LCD DISPLAYING CHARGING DATA :

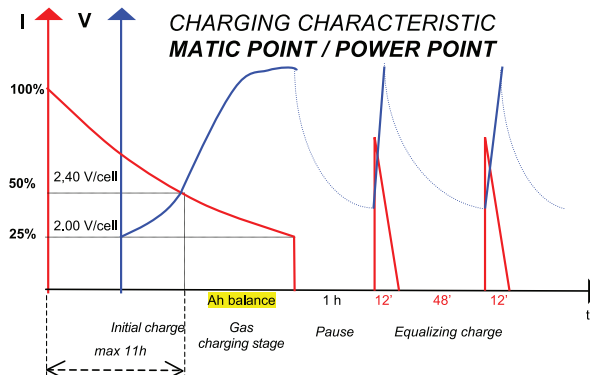
- Real Time Delivered Current (A) and Battery Voltage (V)
- Battery Voltage before charging (V) and Initial Current of the Charge (A)
- Delivered Charge (Ah)
- Overall charging time (hours : minutes)
- Final Voltage reached by battery (V) and Final Current delivered (A)

THE FOLLOWING CHARGING PARAMETERS CAN BE PROGRAMMED BY MEANS OF DIP SWITCHES:

1. Automatic start (Autostart)
2. Final charge timer settable from 1h to 5h 30m
3. Safety timer on the initial stage settable to 7h or 11h (standard)
4. Equalizing charge
5. Proportional charge

9-10H CHARGING CHARACTERISTICS

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Ah and dV/dt controlled gas charging stage available to optimize the overcharging factor, making it independent of mains fluctuations, battery discharge factor and status, thus ensuring a longer battery life.
- Time-controlled gas charging stage as an alternative adjustable by DIP switches (3 hours as standard).
- Foreseen charging time: 9 ÷ 10 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle. It is performed during the night and is repeated once a week as maintenance cycle.



**OPPORTUNITY
THREE
PHASE**

POWER POINT

OPPORTUNITY CHARGER - 7-8 hour charging time for Multi-shift Operation

- 7-8h CHARGING TIME
- Three-phase input voltage: 240/480/600 VAC - Frequency 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with UL recognized insulation system which ensures high reliability even in difficult operating conditions.
- Low voltage control circuit (24 VAC).
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE/ TÜV safety requirements.
- Complete with charging cables and battery connectors.
- Power cord to be installed by the customer.
- It can be stacked up to three units high.

**7 TO 8 HOUR CHARGING TIME FOR
MULTISHIFT OPERATION**

CHARGING PARAMETERS PROGRAMMED BY MEANS OF DIP SWITCHES:

1. Automatic start (Autostart)
2. Final charge timer settable from 1h to 5h 30m
3. Safety timer on the initial stage settable to 7h or 11h (standard)
4. Equalizing charge
5. Proportional charge



LCD DISPLAYING CHARGING DATA :

- Real Time Delivered Current (A) and Battery Voltage (V)
- Battery Voltage before charging (V) and Initial Current of the Charge (A)
- Delivered Charge (Ah)
- Overall charging time (hours : minutes)
- Final Voltage reached by battery (V) and Final Current delivered (A)

	BOX	BOX DIMENSIONS (inches)		
		L	H	W
TL EQUALIZER	L	16.7	11.0	10.6
	XL	19.7	11.8	11.8
MATIC POINT	L	16.9	11.0	10.6
	XL	19.7	11.8	11.8
POWER POINT	LP B	22.1	26.2	21.1
	LP C	25.3	33.1	24.6





Battery Chargers

Helmar is the Exclusive North America Distributor of PBM Chargers

POWER POINT - Standard & Opportunity Charger Specifications & Model Numbers

Type	Cells	Ah (9÷10H) for std.	TL Equalizer	Matic Point	Power Point	Power Point	Power Point	A.C. Input Single Phase				A.C. Input Three Phase			
		Ah (7÷8H) for Dual.	Single Phase	Single Phase	Single Phase	Three Phase	Three Phase Opportunity	120 Volts	208 Volts	240 Volts	480 Volts	208 Volts	240 Volts	480 Volts	600 Volts
12V/20A	6	100÷140	L	30-003	L	30-063		3,4	2,0	1,6					
12V/30A	6	150÷210	L	30-005	L	30-065		5,1	2,9	2,6					
12V/40A	6	200÷280	L	30-007	L	30-067		6,7	3,9	3,4					
12V/50A	6	250÷350	L	30-009	L	30-069		8,4	4,8	4,2					
12V/60A	6	300÷420	XL	30-011	XL	30-071		10,1	5,9	5,0					
12V/80A	6	400÷560				LPB 30-108	LPB 30-308	7,6	6,5	3,3	4,2	3,7	1,9	1,4	
12V/90A	6	450÷630				LPB 30-110	LPB 30-310	8,5	7,4	3,7	4,7	4,1	2,1	1,7	
12V/100A	6	500÷700				LPB 30-112	LPB 30-312	9,4	8,2	4,1	5,3	4,6	2,3	1,9	
12V/120A	6	600÷840				LPB 30-116	LPB 30-316	11,3	9,8	4,9	6,4	5,6	2,8	2,2	
24V/20A	12	100÷140	L	30-019	L	30-079		6,4	3,7	3,2					
24V/30A	12	150÷210	L	30-021	L	30-081		9,6	5,6	4,8					
24V/40A	12	200÷280	XL	30-023	XL	30-083		12,8	7,4	6,4					
24V/50A	12	250÷350	XL	30-025	XL	30-085		16,0	9,3	8,0					
24V/60A	12	300÷420				LPB 30-145	LPB 30-345	10,8	9,3	4,7	6,18	5,3	2,6	2,1	
24V/80A	12	400÷560				LPB 30-149	LPB 30-349	14,3	12,4	6,2	8,0	7,0	3,5	2,8	
24V/100A	12	500÷700				LPB 30-153	LPB 30-353	17,9	15,5	7,8	10,1	8,8	4,3	3,5	
24V/120A	12	600÷840				LPB 30-157	LPB 30-357	22,5	18,6	9,3	12,1	10,5	5,3	4,2	
24V/140A	12	700÷980				LPB 30-161	LPB 30-361	25,1	21,8	10,9	14,1	12,2	6,1	4,8	
24V/160A	12	800÷1120				LPB 30-165	LPB 30-365	28,7	24,9	12,4	16,1	13,9	7,0	5,6	
24V/180A	12	900÷1260					LPB 30-369				18,1	15,7	7,8	6,3	
24V/200A	12	1000÷1400					LPB 30-373				20,1	17,4	8,8	7,0	
36V/20A	18	100÷140	L	30-035	L	30-095		9,4	5,5	4,7					
36V/30A	18	150÷210	L	30-037	L	30-097		14,1	8,1	7,1					
36V/40A	18	200÷280	XL	30-039	XL	30-099		18,9	10,9	9,5					
36V/50A	18	250÷350				LPB 30-184		13,2	11,4	5,7					
36V/60A	18	300÷420				LPB 30-186	LPB 30-386	15,8	13,7	6,9	8,9	7,7	3,8	3,1	
36V/80A	18	400÷560				LPB 30-190	LPB 30-390	21,1	18,3	9,2	11,9	10,3	5,2	4,1	
36V/100A	18	500÷700				LPB 30-194	LPB 30-394	26,4	22,9	11,4	14,8	12,9	6,4	5,2	
36V/120A	18	600÷840				LPB 30-198	LPB 30-398	31,7	27,5	13,7	17,8	15,5	7,7	6,2	
36V/140A	18	700÷980				LPB 30-202	LPB 30-402	37,0	32,0	16,0	20,7	18,0	9,0	7,2	
36V/160A	18	800÷1120				LPC 30-206	LPB 30-406	42,3	36,6	18,3	23,7	20,5	10,3	8,2	
36V/180A	18	900÷1260				LPC 30-210	LPC 30-410	47,5	41,2	20,6	26,7	23,1	11,5	9,3	
36V/200A	18	1000÷1400					LPC 30-414				29,7	25,7	12,9	10,3	
36V/220A	18	1100÷1540					LPC 30-418				32,7	28,2	14,1	11,3	
36V/240A	18	1200÷1680					LPC 30-422				35,5	30,8	15,5	12,4	
48V/20A	24	100÷140	XL	30-039	XL	30-103		12,8	7,4	6,4					
48V/30A	24	150÷210	XL	30-039	XL	30-105		18,9	10,9	9,5					
48V/50A	24	250÷350				LPB 30-226	LPB 30-426	17,5	15,1	7,6	9,8	8,5	4,2	3,4	
48V/60A	24	300÷420				LPB 30-227	LPB 30-427	20,9	18,1	9,1	11,7	10,2	5,1	4,0	
48V/80A	24	400÷560				LPB 30-231	LPB 30-431	27,9	24,2	12,1	15,7	13,6	6,8	5,5	
48V/100A	24	500÷700				LPB 30-235	LPB 30-435	34,9	30,2	15,1	19,6	17,0	8,5	6,8	
48V/120A	24	600÷840				LPC 30-239	LPB 30-439	41,9	36,3	18,1	23,5	20,4	10,2	8,2	
48V/140A	24	700÷980					LPB 30-443				27,4	23,8	11,9	9,5	
48V/160A	24	800÷1120					LPC 30-447				31,3	27,2	13,6	10,8	
48V/180A	24	900÷1260					LPC 30-451				35,2	30,5	15,2	12,3	
48V/200A	24	1000÷1400					LPC 30-455				39,1	33,9	17,0	13,6	
48V/220A	24	1100÷1540					LPC 30-459				43,1	37,3	18,6	14,9	
48V/240A	24	1200÷1680					LPC 30-463				47,0	40,7	20,4	16,3	
72V/80A	36	400÷560				LPB 30-272	LPB 30-472	42,5	36,0	18,0	23,3	20,2	10,1	8,0	
72V/100A	36	500÷700				LPC 30-276	LPC 30-476	51,9	45,0	22,5	29,1	25,2	12,6	10,1	
72V/120A	36	600÷840				LPC 30-280	LPC 30-480	62,2	53,9	27,0	34,9	30,3	15,1	12,1	
72V/140A	36	700÷980					LPC 30-484				40,7	35,3	17,7	14,1	

BATTERY CHARGER MODELS			
CONTROL FEATURES	TL Equalizer	Matic Point	Power Point
Single phase mains supply	X	X	X
Three phase mains supply			X
Automatic START-STOP	X	X	X
Equalizing charge	X	X	X
LCD		X	X
Failure diagnostics with alarm display		X	X
Overload cutout on transformer	X	X	X

BATTERY CHARGER MODELS			
CONTROL FEATURES	TL Equalizer	Matic Point	Power Point
Adjustable board on transformer	X	X	X
Electronic control with failure diagnostics	X	X	X
Configuration parameters setting	X	X	X
VOLT battery	12V, 24V, 36V, 48V	X	X
	72V		X
Preset for wall mounting	X	X	

**Multi-
Voltage**

THE POKER

Multi-Voltage Battery Charger

GENERAL FEATURES:

- Mains input: 120V AC $\pm 5\%$, UL-listed 20A input fuse. Input Current: 15A AC max. Equipped with NEMA 5- 15A cables.
- Output: suitable for 12V, 24V, 36V, and 48V lead-acid batteries.

.Model	AC Input	Battery Capacity
12V/60A	10.3 A	12V 480Ah
24V/45A	13.9 A	24V 360Ah
36V/30A	13.5 A	36V 240Ah
48V/25A	13.9 A	48V 200Ah

- Electromechanical timer adjustable from 0 to 12 hours max.
- Electromechanical switch for output voltages selection.
- Ammeter: 100A/100mV.
- Cabinet with wheels and handlebar for easy handling.
- 24V AC auxiliary circuit with overload cut-out and 1.6A fuse.



OPERATION:

1. Set the timer to the OFF position.
2. Connect to mains.
3. Select correct battery voltage (12V-24V-36V-48V).
4. Connect to battery.
5. Set the timer to the requested charging time (12 hours max).
6. Check that the current shown on the ammeter does not exceed the rated current by 10% for the selected voltage.

LAMP INDICATIONS

Lamps Status Description	CHARGING (Red lamp)	POWER ON (Red lamp)	PAUSE (Green lamp)
Battery charger disconnected	Off	Off	Off
Battery charger in pause	Off	On	On
Battery charger operating	On	On	Off
Fault: overload cut-out or auxiliary fuse circuit	Off	On	Off

PHYSICAL SPECIFICATIONS:

- Dimensions (LxHxW - Inches): 15.7x33.5x12.6 (without handlebar: 15.7x23.6x12.6)
- Weight: 88 lbs (40 Kg)

ACCESSORIES:

- Support for cable winding
- Handlebar for easy transport



PK120-C43



HF Battery Chargers

Helmar is the Exclusive North America Distributor of PBM Chargers



High Frequency Battery Chargers

HF9 Three Phase

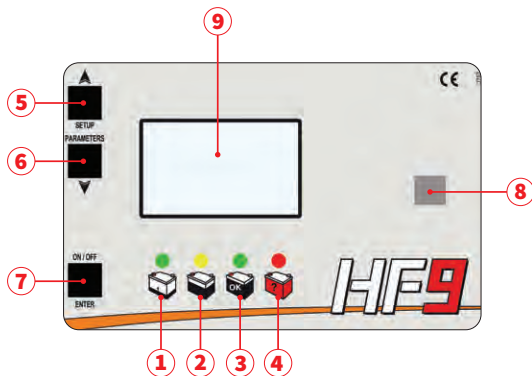
High Energy Savings • Easy Care • High Protection of Electronic Components • Efficiency of to 94%

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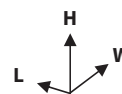


1. Battery Connected
2. Final Charging
3. End of Charging
4. Fault
5. SETUP Button
6. Control PARAMETERS Button
7. ON/OFF Button
8. USB Port
9. Backlit

On Request:

480VAC±10%

230VAC±10%



BOX DIMENSIONS (inches)			
BOX	L	H	W
A	15.40	26.40	11.80
B	17.70	31.90	14.20

HF9 High Frequency Models & Specifications

Volts	Amps	Input 480 Vac Supply 50/60Hz	Box	Input 208/240 Vac Supply 50/60Hz	Box	7÷8h	10÷12h
24 V	50 A	90-Z4005	A	80-Z4005	A	300÷350	425÷500
	60 A	90-Z4006	A	80-Z4006	A	360÷420	510÷600
	70 A	90-Z4007	A	80-Z4007	A	420÷490	595÷700
	80 A	90-Z4008	A	80-Z4008	A	480÷560	680÷800
	100 A	90-Z4010	A	80-Z4010	A	600÷700	850÷1000
	120 A	90-Z4012	A	80-Z4012	A	720÷840	1020÷1200
	140 A	90-Z4014	A	80-Z4014	A	840÷980	1190÷1400
	160 A	90-Z4016	A	80-Z4016	A	960÷1120	1360÷1600
	180 A	90-Z4018	A	80-Z4018	A	1080÷1260	1530÷1800
36 V	200 A	90-Z4020	A	80-Z4020	A	1200÷1400	1700÷2000
	50A	90-Z4030	A	80-Z4030	A	300÷350	425÷500
	60A	90-Z4031	A	80-Z4031	A	360÷420	510÷600
	70A	90-Z4032	A	80-Z4032	A	420÷490	595÷700
	80A	90-Z4033	A	80-Z4033	A	480÷560	680÷800
	100A	90-Z4035	A	80-Z4035	A	600÷700	850÷1000
	120A	90-Z4037	A	80-Z4037	A	720÷840	1020÷1200
	140A	90-Z4039	A	80-Z4039	A	840÷980	1190÷1400
	150A	90-Z4040	A	80-Z4040	A	900÷1050	1275÷1500
	160A	90-Z4041	A	80-Z4041	A	960÷1120	1360÷1600
	180A	90-Z4043	B			1080÷1260	1530÷1800
	200A	90-Z4045	B			1200÷1400	1700÷2000
	220A	90-Z4047	B			1320÷1540	1870÷2200
	240A	90-Z4049	B			1440÷1680	2040÷2400
	250A	90-Z4050	B			1500÷1750	2125÷2500
48 V	50A	90-Z4055	A	80-Z4055	A	300÷350	425÷500
	60A	90-Z4056	A	80-Z4056	A	360÷420	510÷600
	70A	90-Z4057	A	80-Z4057	A	420÷490	595÷700
	80A	90-Z4058	A	80-Z4058	A	480÷560	680÷800
	90A	90-Z4059	A	80-Z4059	A	540÷630	765÷900
	100A	90-Z4100	A	80-Z4100	A	600÷700	850÷1000
	110A	90-Z4101	A	80-Z4101	A	660÷770	935÷1100
	120A	90-Z4102	A	80-Z4102	A	720÷840	1020÷1200
	140A	90-Z4104	A	80-Z4104	A	840÷980	1190÷1400
	150A	90-Z4105	A	80-Z4105	A	900÷1050	1275÷1500
	160A	90-Z4106	B			960÷1120	1360÷1600
	180A	90-Z4108	B			1080÷1260	1530÷1800
	200A	90-Z4110	B			1200÷1400	1700÷2000
	220A	90-Z4112	B			1320÷1540	1870÷2200
	240A	90-Z4114	B			1440÷1680	2040÷2400
	250A	90-Z4115	B			1500÷1750	2125÷2500
80 V	40A	90-Z4140	A	80-Z4140	A	240÷280	340÷400
	50A	90-Z4141	A	80-Z4141	A	300÷350	425÷500
	60A	90-Z4142	A	80-Z4142	A	360÷420	510÷600
	70A	90-Z4143	A	80-Z4143	A	420÷490	595÷700
	80A	90-Z4144	A	80-Z4144	A	480÷560	680÷800
	90A	90-Z4145	A	80-Z4145	A	510÷595	722÷850
	100A	90-Z4146	B			600÷700	850÷1000
	120A	90-Z4148	B			660÷770	935÷1100
	140A	90-Z4150	B			840÷980	1190÷1400
90 V	160A	90-Z4152	B			960÷1120	1360÷1600
	40A	90-Z4160	A	80-Z4160	A	230÷275	325÷400
	50A	90-Z4161	A	80-Z4161	A	300÷350	425÷500
	60A	90-Z4162	A	80-Z4162	A	360÷420	510÷600
	75A	90-Z4164	A	80-Z4164	A	450÷525	640÷750
	100A	90-Z4168	B			600÷700	850÷1000
	130A	90-Z4168	B			780÷910	1105÷1300



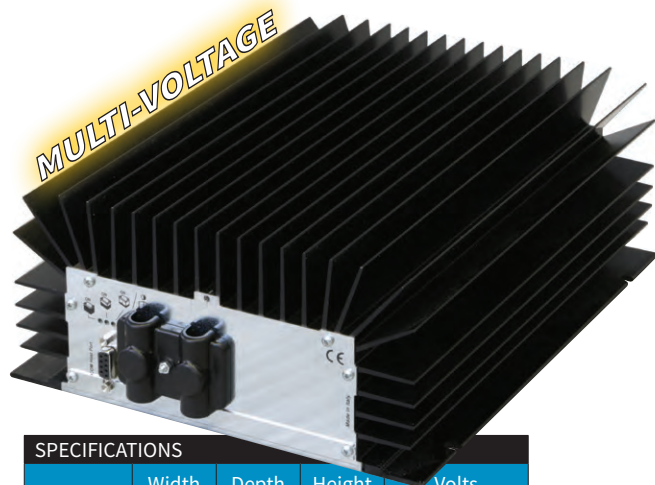
HF Battery Chargers

Helmar is the Exclusive North America Distributor of PBM Chargers



High Frequency Battery Chargers

NEW HF1000 | IP65 High Frequency / On-Board Charger



SPECIFICATIONS

Model	Width (mm)	Depth (mm)	Height (mm)	Volts Amps
HF1000W	280	230	105	12V / 30A
				24V / 30A
				36V / 20A
				48V / 15A

HF1000 TECHNICAL FEATURES

- Universal input voltage: 100 ÷ 240Vac ; 50÷60Hz
- Maximum input current: 13A (rms) at 110V / 6 A at 230V
- High frequency system with advanced technology
- Charging process fully managed by microprocessor
- Efficiency: 91% at full load (120Vac, 48VDC)
92% at full load (230Vac, 48VDC)
- Thermal protection against overheating (Derating of the charging current)
- Environmental protection class IP65
- Maximum relative humidity >95% (non condensing)
- Operating room temperature: from -20 to +45°C
- CE Conformity
- Block relay (1A-30VAC/DC max) with NC contact for on-board installations
- Charge curves for Pb-acid, Gel and AGM batteries
- Remote signal (on request) of the charge status (red/yellow/green) and any faults
- Dimensions W 280 D 230 H 105 mm
- Centre distance for fixing: 220 x 205 mm
- Weight: 4.6 kg

HF5, HF6, & HF7 Single Phase • Easy Care • High Protection of Electronic Components • Efficiency up to 94%

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HF5



HF6



HF6 (1K8)



HF7



BOX DIMENSIONS (inches)

Model	Box	L (mm)	H (mm)	(mm)
HF5	A	133	112	60
HF5	B	133	145	60
HF5	C	134	240	63
HF6	D	190	310	130
HF6 (1K8)	E	208	320	180
HF7	F	360	531	180

SINGLE PHASE - HF5 High Frequency Models & Specifications

Type	Power kVa	Battery Capacity	Box	Model
12V / 5A	0,12	20÷50	A	HF5012005
12V / 10A	0,25	60÷100	B	HF5012010
12V / 15A	0,37	110÷150	C	HF5012015
12V / 20A	0,50	145÷200	C	HF5012020
24V / 5A	0,25	20÷50	A	HF5024005
24V / 10A	0,50	60÷100	B	HF5024010
24V / 15A	0,75	110÷150	C	HF5024015
24V / 20A	1,00	145÷200	C	HF5024020

SINGLE PHASE - HF6, & HF7 High Frequency Models & Specifications

Type	7÷8 h	10÷12h	Input	Box	Model
12V / 20A	100÷120	160÷200	115Vac ±15%	D	HF6012020
12V / 25A	125÷150	200÷250	115Vac ±15%	D	HF6012025
12V / 30A	150÷180	240÷300	115Vac ±15%	D	HF6012030
12V / 40A	240÷280	320÷400	208÷240 Vac	E	60-20490
12V / 40A	240÷280	320÷400	100÷240 Vac	E	70-8792
12V / 50A	300÷350	420÷500	208÷240 Vac	E	60-20500
12V / 50A	300÷350	420÷500	100÷240 Vac	E	70-8793
12V / 60A	360÷420	495÷600	208÷240 Vac	F	60-20493
12V / 60A	360÷420	495÷600	100÷240 Vac	F	70-8794
12V / 70A	430÷490	580÷700	208÷240 Vac	D	60-20495
12V / 70A	430÷490	580÷700	100÷240 Vac	D	70-8795
24V / 100A	580÷690	810÷1000	208÷240 Vac	D	70-8842
24V / 120A	720÷840	1000÷1200	208÷240 Vac	E	70-8843
24V / 20A	100÷120	160÷200	115Vac ±15%	E	HF6024020
24V / 25A	125÷150	200÷250	115Vac ±15%	E	HF6024025
24V / 30A	150÷180	240÷300	115Vac ±15%	F	HF6024030
24V / 40A	240÷280	320÷400	208÷240 Vac	E	60-20499
24V / 40A	240÷280	320÷400	100÷240 Vac	F	70-8799
24V / 45A	270÷315	360÷450	208÷240 Vac	E	60-20501
24V / 50A	300÷350	420÷500	208÷240 Vac	F	60-20502
24V / 50A	300÷350	420÷500	100÷240 Vac	F	70-8800
24V / 60A	360÷420	495÷600	208÷240 Vac	F	60-20504
24V / 60A	360÷420	495÷600	100÷240 Vac	F	70-8801
24V / 70A	430÷490	580÷700	208÷240 Vac	F	60-20506
24V / 70A	430÷490	580÷700	100÷240 Vac	D	70-8802
24V / 80A	500÷570	675÷800	208÷240 Vac	D	70-8840
24V / 90A	540÷630	720÷900	208÷240 Vac	D	70-8841
36V / 100A	580÷690	810÷1000	208÷240 Vac	E	70-8851
36V / 15A	75÷95	120÷150	115Vac ±15%	F	HF6036015
36V / 20A	100÷120	160÷200	115Vac ±15%	E	HF6036020
36V / 25A	150÷175	200÷250	208÷240 Vac	E	60-20512
36V / 25A	125÷150	200÷250	115Vac ±15%	F	HF6036025
36V / 30A	170÷200	240÷300	208÷240 Vac	E	60-20513

SINGLE PHASE - HF6, & HF7 High Frequency Models & Specifications

Type	7÷8 h	10÷12h	Input	Box	Model
36V / 30A	170÷200	240÷300	100÷240 Vac	F	70-8804
36V / 35A	210÷245	280÷350	208÷240 Vac	F	60-20514
36V / 40A	240÷280	320÷400	208÷240 Vac	F	60-20515
36V / 40A	240÷280	320÷400	100÷240 Vac	F	70-8805
36V / 45A	270÷315	360÷450	208÷240 Vac	F	60-20516
36V / 45A	270÷315	360÷450	100÷240 Vac	D	70-8806
36V / 50A	300÷350	420÷500	208÷240 Vac	E	70-8846
36V / 60A	360÷420	495÷600	208÷240 Vac	D	70-8847
36V / 70A	430÷490	580÷700	208÷240 Vac	E	70-8848
36V / 80A	500÷570	675÷800	208÷240 Vac	E	70-8849
36V / 90A	540÷630	720÷900	208÷240 Vac	F	70-8850
48V / 15A	75÷95	120÷150	115Vac ±15%	E	HF6048015
48V / 20A	120÷140	160÷200	208÷240 Vac	F	60-20521
48V / 20A	100÷120	160÷200	115Vac ±15%	F	HF6048020
48V / 25A	150÷175	200÷250	208÷240 Vac	F	60-20522
48V / 25A	150÷175	200÷250	100÷240 Vac	F	70-8807
48V / 30A	170÷200	240÷300	208÷240 Vac	F	60-20523
48V / 30A	170÷200	240÷300	100÷240 Vac	F	70-8808
48V / 35A	210÷245	280÷350	208÷240 Vac	E	60-20524
48V / 40A	240÷280	320÷400	208÷240 Vac	E	70-8809
48V / 40A	240÷280	320÷400	100÷240 Vac	F	70-8809-1
48V / 50A	300÷350	420÷500	208÷240 Vac	E	70-8853
48V / 60A	360÷420	495÷600	208÷240 Vac	F	70-8854
48V / 80A	500÷570	675÷800	208÷240 Vac	F	70-8856
48V / 95A	560÷650	780÷950	208÷240 Vac	F	70-8857
72V / 10A	70÷80	90÷100	208÷240 Vac	F	60-20528
72V / 15A	90÷110	125÷150	208÷240 Vac	E	60-20529
72V / 15A	90÷150	125÷150	100÷240 Vac	E	70-8790
72V / 20A	120÷140	160÷200	208÷240 Vac	F	60-20530
72V / 20A	120÷140	160÷200	100÷240 Vac	E	70-8810
72V / 30A	170÷200	240÷300	208÷240 Vac	F	70-8811
72V / 40A	240÷280	320÷400	208÷240 Vac	F	70-8812
72V / 50A	300÷350	420÷500	208÷240 Vac	F	70-8858
72V / 60A	360÷420	495÷600	208÷240 Vac	F	70-8859
80V / 10A	70÷80	90÷100	208÷240 Vac		60-20535
80V / 15A	90÷110	125÷150	208÷240 Vac		60-20536
80V / 15A	90÷110	125÷150	100÷240 Vac		70-8813
80V / 20A	120÷140	160÷200	208÷240 Vac		60-20537
80V / 20A	120÷140	160÷200	100÷240 Vac		70-8814
80V / 30A	170÷200	240÷300	208÷240 Vac		70-8815
80V / 40A	240÷280	320÷400	208÷240 Vac		70-8860
80V / 50A	300÷350	420÷500	208÷240 Vac		70-8863



On-Board Battery Chargers

On_Board Battery Chargers

Many Models to Suit Your Needs



Part #	20-105
Volts/Amps	24V / 15A
Height	7"
Width	4.5"
Depth	11"



Part #	20-282
Volts/Amps	12V / 10A
Height	5"
Width	5.75"
Depth	10.25"



Part #	20-126
Volts/Amps	24V / 15A
Height	7"
Width	5.5"
Depth	11.75"



Part #	20-293
Volts/Amps	24V / 15A
Height	6"
Width	3"
Depth	23"



Part #	20-134
Volts/Amps	24V / 25A
Height	6.5"
Width	8"
Depth	13"



Part #	20-304
Volts/Amps	36V / 40A
Height	7"
Width	8"
Depth	12.5"



Part #	20-143
Volts/Amps	36V / 25A
Height	6.5"
Width	8"
Depth	13"



Part #	20-315
Volts/Amps	24V / 25A
Height	8"
Width	6"
Depth	11"



Part #	20-152
Volts/Amps	24V / 25A
Height	6"
Width	9"
Depth	6.5"



Part #	20-325
Volts/Amps	36V / 25A
Height	5.5"
Width	7"
Depth	9"



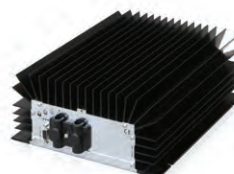
Part #	20-261
Volts/Amps	120V / 60hz
Height	7"
Width	4.5"
Depth	11"



Part #	20-337
Volts/Amps	24V / 20A
Height	5.5"
Width	3"
Depth	6"



Part #	20-271
Volts/Amps	12V / 5A
Height	5"
Width	5.75"
Depth	10.25"



Part #	HF1000W
Volts/Amps	12V / 30A
	24V / 30A
	36V / 20A
	48V / 15A

PBM BATTERY CHARGERS

Warranty Information

1.) DEFINITION OF WARRANTY:

Warranty is an indemnity promise made by a Manufacturer to a Customer. A warranty claim can be filed if a defect/failure is detected after charger delivery to End Customer. If an End Customer notifies a warranty claim, the Dealer shall make sure that the warranty period has not expired yet. PBM warranty covers finished and tested battery chargers, incl. their electrical and electronic components, proven to be defective in workmanship.

2.) COMING INTO FORCE:

PBM guarantee PBM chargers for a 48 month period from the date of delivery and installation at end customer's site. Charger's serial number, written on rating plate, has to be made known to PBM.

3.) VALIDITY:

- PBM assume no obligations or liability for defects or damage from improper installation (see user and service manuals).
- An improper installation will automatically void the warranty.

4.) WARRANTY TERMS:

- PBM guarantee PBM chargers for a period of 12 months from the date of delivery to End Customer.
- Special agreements may provide for different terms, for example:
 - Any unauthorized technical change will void the warranty immediately.
 - PBM maintain an Insurance Policy (Product Liability) covering damages caused by PBM battery chargers to batteries, electrical systems and/or facilities (in case of fire).
 - Should such an accident occur, further actions should be taken:
 - a) The Dealer shall immediately send a written report to PBM, describing nature of the accident and specifying charger and battery data and address of End Customer ;
 - b) The End Customer shall keep apart all components/equipment involved in the accident, in order to prevent them from being touched and/or tampered with by anyone ;
 - c) PBM will immediately notify the accident to its Insurance Company. The End Customer shall keep materials/components available for the estimation of damage by an Insurance Assessor.
 - Warranty does not cover any damage caused/suffered by the battery charger during shipment: It is recommended to always check the integrity of packaging on charger receipt.
 - Furthermore it is suggested to always accept goods received by shipping agents with "qualified acceptance" to be entitled to file a claim if damages are detected later. When returning chargers/components, carefully pack them using original boxes and packing material, if possible. Please note have always to remain upright during shipment.

5.) SPARE PARTS FOR WARRANTY REPAIRS:

- The Dealer shall make use of original spare parts only when performing warranty repairs and shall install the charger as described in the user and service manuals.
- When placing an order, the Dealer shall notify that he is going to use the spare parts for a warranty repair. The order will be processed by PBM as a standard purchase order: replacement parts will be delivered along with a delivery note and a sales invoice. Replacement parts will be sent free of charge to the customer.
- The Dealer shall also specify charger data (type, model, and serial number) on the purchase order.
- The Dealer can also make use of original spare parts from his stock to perform warranty repairs.

6.) SPARE PARTS FOR WARRANTY REPAIRS:

- The warranty does not cover any labour, travel expenses, day allowances etc.
- Replacement parts or a replacement charger will be sent free of charge to the customer (if warranty claim is acknowledged).
- Defective parts or chargers shall be returned to PBM for warranty inspection.
- Shipping charges for returning defective items to PBM will be refunded by PBM if warranty claim is acknowledged.
- Shipments to and from PBM shall be performed only by shipping agents/carriers having an arrangement with PBM.

7.) WARRANTY CLAIM:

- PBM will perform warranty inspection and testing of the returned items and/or spare parts and/or chargers.
- After inspection, notification of inspection results will be sent to the Dealer:

7.1.) ACKNOWLEDGED WARRANTY CLAIM:

If PBM determine that in fact the return is defective and acknowledge the warranty claim, a credit note will be issued. Credit notes will be issued once a month.

7.2.) ACKNOWLEDGED WARRANTY CLAIM:

After inspection, should any return be determined not to be defective, as reported, PBM will deny coverage stating the reasons for it. As a result, no credit note will be issued and all the relevant shipping costs will be charged to the customer.

8.) MATERIALS MANAGEMENT:

Defective materials shall always be returned to PBM for investigation. The Dealer shall proceed as follows:

- To avoid continuous and expensive shipments, the Dealer shall keep defective materials until reaching a certain volume and return them in a single shipment upon agreement with PBM.
- Returned items shall be delivered along with a delivery note listing:
 - Type, model and serial number of battery charger
 - Nature and description of failure
- Shipping charges for returning warranty items will be refunded by PBM only if shipment is carried out by shipping agents/carriers having an arrangement with PBM and provided that warranty claim is acknowledged.



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